TEMPORARY WATER ACQUISITION IN SUPPORT OF BUREAU OF RECLAMATION WATER YEAR 2000-2003 OPERATIONS

ENVIRONMENTAL ASSESSMENT/ FINDING OF NO SIGNIFICANT IMPACT

FINAL

May 2000

United States Department of the Interior

Bureau of Reclamation
Mid-Pacific Region
Sacramento, California

FINDING OF NO SIGNIFICANT IMPACT

TEMPORARY WATER ACQUISITION IN SUPPORT OF BUREAU OF RECLAMATION WATER YEAR 2000-2003 OPERATIONS

Recommended by: _____
Program Manager

Concur: _____
Regional Environmental Officer

Approved by: _____
CALFED Coordination Officer

Date: May 19, 2000

FONSI Number: _____

PROPOSED
FINDING OF NO SIGNIFICANT IMPACT

Temporary Water Acquisition in Support
of Bureau of Reclamation
Water Year 2000-2003 Operations

INTRODUCTION

This Finding of No Significant Impact (FONSI) was prepared for the implementation of a temporary water acquisition in support of the U.S. Bureau of Reclamation (Reclamation) Water Year 2000-2003 operations. The FONSI is based on an analysis of impacts associated with implementation of potential water acquisitions from willing sellers identified in two alternative actions in the Environmental Assessment (EA). The willing seller is the Kern Water Bank Authority (KWBA). Reclamation has determined that actions related to operating groundwater recharge/recovery systems at the Kern Water Bank Project (KWB) is not a federal action to be analyzed in this EA. This determination was based on Reclamation's conclusion that the components of the proposed water acquisition does not go beyond the intended use of the groundwater recharge and storage facility as it has been defined and established in environmental documents adopted by the preparers (listed below). The reader is directed to these documents for detailed discussions of environmental setting and effects.

1) Final Program Environmental Impact Report for Artificial Recharge, Storage and Overdraft Correction Program, Kern County, California (Kern Water Bank) (December 1986);

2) Volume IV (NEPA/Federal Endangered Species Act and California Environmental Quality Act/California Endangered Species Act Compliance Documentation) of the Kern Water Bank Habitat Conservation Plan (HCP) (October 1997);

A draft EA describing the expected affects of the proposed temporary water acquisitions was circulated for public comment and review from January 28 to February 21, 2000. The EA has been modified to reflect changing hydrologic conditions and to correct errors. A final EA is attached to this FONSI, as are responses to the comments received on the draft EA. These documents are incorporated by reference.

PROPOSED ACTION

The Proposed Action is to increase the operational flexibility of the Central Valley Project (CVP) by acquiring south-of-the-Delta water supplies from willing sellers who have already prepared environmental compliance documents covering the sale, storage, withdrawal, and conveyance of such water.

The Proposed Action will maintain Reclamation's operational flexibility to the greatest extent possible. This action will help meet near-term water demands and provide information for potential similar long-term activities. The water would be used by Reclamation to manage San Luis Reservoir water quality associated with the reservoir "low-point" problem, and/or manage for unexpected pumping curtailments such as last summer's reduced pumping for protection of Delta smelt. A portion of the acquired water may be made available to the State Water Project (SWP) to maintain existing allocations in an effort to prevent any further reductions to it's Contractors as a result of additional pumping curtailments due to endangered species or water quality considerations or obligations.

The most recent CVP water allocation (U.S. Bureau of Reclamation 2000) forecasts that agricultural water contractors south of the Delta will receive approximately 1,200,000 acre-feet (AF) of water in Water Year 2000 (60% supply) and municipal and industrial contractors will receive approximately 136,000 AF (85% supply).

Water acquisitions are receiving increasing attention as important tools for increasing operational flexibility; water banks also are designed to help manage California water supplies and increase operational flexibility. Consequently, using south-of-the-Delta water acquisitions and water banks, such as those included in this Proposed Action, are highly valuable tools for facilitating better water management in California.

FINDING

Reclamation has found that the acquisition of up to 75,000 AF of water during Water Year 2000 from the KWBA will have no significant impact on the environment. This finding is based on the fact that any changes in CVP operations would be minor and temporary, there are no discrete effects attributed to the proposed action from the acquisition in the area from which the water is being made available, there would be no changes in agricultural or urban land uses as a result of the acquisition, and all water operations would be in accordance with existing biological opinions.

CONTENTS

CONTENTS

FIGURE

TABLES

1.0 INTRODUCTION

The Bureau of Reclamation (Reclamation) is proposing to take several actions which would provide greater operational flexibility to the Central Valley Project (CVP) water supply system during Water Years 2000-2003.

Several factors existing prior to and during Water Year 2000 (October 1, 1999-September 30, 2000) have decreased CVP operational flexibility. The most important factors include environmental compliance requirements and unusually dry weather conditions in early winter.

The CALFED Policy Group has concurred with using $10 million of CALFED federal "non-ecosystem" funding for acquiring water to improve operational flexibility for the CVP. At its November 17, 1999 meeting, the CALFED Policy Group approved a short list of tools to be considered for increasing CVP operational flexibility. One of the most promising tools is acquiring south-of-the-Delta water supplies from willing sellers who have already prepared environmental compliance documents covering such transactions. Reclamation is proposing to acquire water from the Kern Water Bank Authority (KWBA) and the Vidler Water Company's (Vidler's) holdings in the Semitropic Groundwater Banking Project. This Environmental Assessment (EA) describes the environmental effects of two alternatives for acquiring this water (purchase of water and purchase of options) as well as those of the No-Action Alternative.

The San Joaquin River Exchange Contractors Water Authority (Exchange Contractors) have submitted a separate proposal to Reclamation pursuant to the Central Valley Project Improvement Act (CVPIA) for the transfer of up to 84,000 acre-feet (AF) of CVP water supplies per year for 5 years to San Joaquin Valley wetlands habitat or any one or more of nine CVP agricultural water users[1]. Reclamation may use some of the money provided by CALFED to acquire water from the Exchange Contractors. Although, in the EA supporting the Exchange Contractors' proposed transfer, Reclamation is not identified as potentially acquiring water for agricultural water use, the environmental effects of the transfer are described. Although the same source of money may be used for that acquisition as the one described in this EA, the Exchange Contractors acquisition is not under consideration in this EA and the environmental effects are not considered here except for cumulative impacts which are addressed in Section 4.0 Cumulative Effects.

1.1 NEPA Compliance

Reclamation, as the lead Federal agency, has prepared this EA pursuant to the National Environmental Policy Act of 1969 (NEPA), as amended, to examine the environmental effects of acquiring water from the willing sellers mentioned above.

[1] These districts are: Westlands Water District, Broadview Water District, Panoche Water District, Pacheco Water District, San Luis Water District, Del Puerto Water District, Patterson Water District, Plainview Water District, and San Benito County Water District.

Reclamation has determined that actions related to operating groundwater recharge/recovery systems at the Kern Water Bank Project (KWB) and the Semitropic Groundwater Banking Project are not federal actions to be analyzed in this EA. This determination was based on Reclamation's conclusion that these components of the proposed water acquisitions do not go beyond the intended use of these groundwater recharge and storage facilities as they have been defined and established in environmental documents adopted by the preparers (listed below). The reader is directed to these documents for detailed discussions of environmental setting and effects.

a) Final Program Environmental Impact Report for Artificial Recharge, Storage and Overdraft Correction Program, Kern County, California (Kern Water Bank) (December 1986);

b) Volume IV (NEPA/Federal Endangered Species Act and California Environmental Quality Act/California Endangered Species Act Compliance Documentation) of the Kern Water Bank Habitat Conservation Plan (HCP) (October 1997);

c) Semitropic Groundwater Banking Project Final Environmental Impact Report - Findings and Mitigation Monitoring Plan (July 1994); and

d) Initial Study and Proposed Negative Declaration for the Pioneer Groundwater Recharge and Recovery Project (November 1996).

1.2 Purpose and Need

The purpose of the Proposed Action is to increase the operational flexibility of the CVP by acquiring south-of-the-Delta water supplies from willing sellers who have already prepared environmental compliance documents covering the sale, storage, withdrawal, and conveyance of such water.

The need for the Proposed Action is based on maintaining and enhancing state and federal operational flexibility to the greatest extent possible. This action will help meet near-term water demands and provide information for potential similar long-term activities. The most recent CVP preliminary water allocation (U.S. Bureau of Reclamation 2000) forecasts that agricultural water contractors south of the Delta will receive approximately 1,200,000 acre-feet (AF) of water in Water Year 2000 (60% supply) and municipal and industrial contractors will receive approximately 136,000 AF (85% supply). State Water Contractors are estimated to receive a 90% supply. The water acquired in this action could be used to help maintain these allocations if additional operational restrictions are implemented.

Water acquisitions are receiving increasing attention as important tools for increasing operational flexibility; water banks also are designed to help manage California water supplies and increase operational flexibility. Consequently, using south-of-the-Delta water acquisitions and water

banks, such as those included in the Proposed Action, are highly valuable tools for facilitating better water management in California.

2.0 ALTERNATIVES

This chapter describes the No-Action Alternative and two alternatives for increasing operational flexibility via south-of-the-Delta water acquisitions during Water Years 2000-2003: 1) Water Purchase Alternative, and 2) Option Purchase Alternative. For the purposes of this EA, "water purchase" is a direct acquisition of water in Water Year 2000 under specific prices, terms, and conditions negotiated with the sellers. An "option purchase" is the purchase of an option to buy water in Water Years 2000-2003 under specific prices, terms, and conditions negotiated with the sellers. The buyer can decide to exercise, or not exercise, their option to purchase water at a later date. It is entirely possible that water could be acquired through a combination of water purchases and option purchases.

2.1 No-Action Alternative

Under the No-Action Alternative, water to increase operational flexibility, as described in this EA, would not be acquired by Reclamation.

2.2 Water Purchase Alternative (Water Year 2000 Only)

Under the Water Purchase Alternative, Reclamation would use up to $10 million to acquire water from KWBA and Vidler's holdings in the Semitropic Groundwater Banking Project. The maximum amount of water available from each of the sellers is:

- KWBA - 100,000 AF, and
- Vidler - 5,000 AF.

The total amount of water that could be purchased with the $10 million would depend on the prices, terms, and conditions negotiated with the two sellers. It would likely be less than the total amount of available water. At the present time, the amount of water that could be purchased is expected to be approximately 75,000 AF.

The water would be provided by Reclamation to SWP contractors and CVP contractors in the Delta, West San Joaquin and San Felipe divisions to maintain existing allocations, manage San Luis Reservoir water quality associated with the reservoir "low-point" problem, or manage for unexpected pumping curtailments such as last summer's reduced pumping for protection of Delta smelt. Table 2-1 lists the major CVP contractors in these three divisions. Because the allocation of CVP water during Water Year 2000 would continue to be much less than 100% of contract values, and because the water would be used to maintain existing allocations, no new agricultural land would be put into production, and no urban land use changes are expected to result from the delivery of this water.

Details regarding how the water would be made available and could be delivered are provided in the following sections.

Table 2-1
Major CVP Contractors in the Delta, West San Joaquin and San Felipe Divisions and Projected CVP Deliveries

	CVP Contractor	Estimated Deliveries Under the No-Action[2]	Estimated Deliveries w/ Water Purchase [3]
Delta Mendota Canal -- Delta and West San Joaquin Divisions			
	Banta-Carbona Irrigation District	15,000	16,250
	Broadview Water District	16,200	17,550
	Centinella Water District	1,500	1,625
	Del Puerto Water District	77,622	84,091
	Eagle Field Water District	2,730	2,958
	Mercy Springs Water District	7,980	8,645
	Oro Loma Water District	2,760	2,990
	Pacheco Water District	6,048	6,552
	Patterson Water District	9,900	10,725
	Plain View Water District	12,360	13,390
	West Side Water District	4,500	4,875
	West Stanislaus Irrigation District	30,000	32,500
	Widren Water District	1,794	1,944
	Westlands Water District	690,000	747,500
San Felipe Division			
	San Benito County Water District	28,342	30,532
	Santa Clara Valley Water District	121,350	128,975

[2] For Water Year 2000/20001 based on Reclamation's March 20, 2000 Water Allocation.

[3] Assumes acquired water would be used to augment CVP contract supplies.

2.2.1 Kern Water Bank Authority

KWBA may offer to Reclamation the opportunity to purchase up to 100,000 AF of water during Water Year 2000. Water would be made available for purchase by the KWBA by having member districts substitute water from the water bank (i.e. groundwater pumping) for a portion of their Water Year 2000 SWP allocation, which they would leave in San Luis Reservoir or O'Neill Forebay. The acquired water would then be made available for delivery to CVP/SWP contractors through the Delta-Mendota Canal, through the San Felipe Project facilities, or SWP facilities.

The 100,000 AF would only be available if the KWB's SWP entitlement for Water Year 2000 is greater than 50% of their contract value. The water would be delivered over a 9-month period from April 2000 through December 2000, with roughly equal amounts delivered each month.

2.2.2 Vidler Water Company

Vidler, a participant in the Semitropic Groundwater Banking Project, may provide Reclamation with the opportunity to purchase up to 5,000 AF of water during Water Year 2000. Water would be made available under the same terms and conditions as described above for KWBA except that the availability of the water from Vidler would not be dependent on their SWP entitlement.

2.3 Option Purchase Alternative (Multi-Year)

2.3.1 Kern Water Bank Authority

Under the Option Purchase Alternative, rather than using the $10 million to purchase water from KWBA, Reclamation would purchase options for up to 100,000 AF that could be exercised any time during a 3-year period between April 15, 2000 and March 31, 2003. As with the Water Purchase Alternative, the amount of water for which options could be acquired would depend on the prices, terms, and conditions negotiated with each of the identified sellers. The water from each of the sellers would be made available and delivered in the same manner as under the Water Purchase Alternative.

Reclamation would acquire the options either to augment forecasted supplies or to maintain existing Water Year 2000 allocations in the event of unforseen Delta pumping curtailments.

KWBA has indicated that the amount of water available in any one year will depend on the amount of water they receive from the SWP. In years when their SWP allocation is greater than 50% of their contract amount, a maximum amount of 50,000 AF of water would be available for purchase. In years when their SWP allocation is 50% or less, a maximum amount of 25,000 AF of water would be available.

2.3.2 Vidler Water Company

The Vidler option purchase would be implemented in the same way as the KWBA option purchase described above, except that the maximum amount of water on which options could be purchased would be 5,000 AF.

3.0 AFFECTED ENVIRONMENT/ENVIRONMENTAL CONSEQUENCES

This chapter discusses the affected environment for each of the environmental resources and concerns evaluated for this EA. It also describes any potential impacts each alternative may have on these resources and concerns. As stated earlier in Section 1.1, Reclamation has determined that actions related to operating groundwater recharge/recovery systems at the Kern Water Bank Project (KWB) and the Semitropic Groundwater Banking Project are not federal actions to be analyzed in this EA. The reader is directed to those documents listed in Section 1.1 for detailed discussions of environmental setting and effects for those projects.

This EA provides information regarding the following environmental issues and concerns:

- surface water,
- groundwater,
- fish resources,
- vegetation and wildlife,
- energy,
- recreation,
- cultural resources,
- environmental justice, and
- Indian Trust Assets.

3.1 Surface Water

3.1.1 Affected Environment

Central Valley Project Facilities - The CVP (Figure 3-1) is one of the nation's major water developments, extending from the Cascade Range in the northern part of the state to the Kern River to the south. It includes 20 reservoirs, 11 power plants, 500 miles of canals, and other facilities. The CVP's main storage facilities south of the Delta include New Melones Reservoir on the Stanislaus River, Millerton Lake on the San Joaquin River, and San Luis Reservoir. These storage facilities provide 4 million AF of combined storage. CVP facilities now in operation, under construction, or authorized will bring irrigation water to 3,747,000 acres of land, much of which is already under cultivation. CVP facilities also provide 536,000 AF of water for domestic, municipal, and industrial use.

A number of storage, conveyance, and pumping facilities could be used to distribute south-of-the Delta water acquired by Reclamation. San Luis Reservoir, located on San Luis Creek near Los Banos, with a capacity of 2 million AF, is a pumped-storage reservoir used primarily to store CVP and SWP water exported from the Delta using the Tracy and Harvey O. Banks pumping plants. It is a joint federal and state facility. Water from San Luis Reservoir is released for delivery through three facilities: through the San Luis Canal to CVP and SWP contractors, through the

Pacheco Tunnel to serve the San Felipe Unit of the CVP, and through the Delta-Mendota Canal to the Mendota Pool on the San Joaquin River west of Fresno. The Delta-Mendota Canal also is used to deliver water to the Exchange Contractors and to CVP contractors in the West San Joaquin Division of the CVP. (U.S. Bureau of Reclamation 1999.)

State Water Project - The SWP consists of 22 reservoirs, 17 pumping plants, 8 hydroelectric power plants, and 350 miles of aqueducts and pipelines. Primary storage facilities are located in Oroville on the Feather River, which is a tributary to the Sacramento River. Additional water supplies are developed from surplus flows in the Sacramento-San Joaquin Delta. The SWP transports water from the Delta from the Harvey O. Banks Delta Pumping Plant to the San Joaquin Valley and Southern California in the California Aqueduct. Storage facilities of the SWP south of the Delta include Pyramid Lake, Castaic Lake, Silverwood Lake, and Lake Perris. San Luis Reservoir near Los Banos, is a joint CVP-SWP facility. The SWP has water supply contracts with 29 public agencies whose jurisdictions encompass a fourth of California's land area and two-thirds of the population. Most SWP water delivered in Southern California and San Francisco Bay area is for urban use, while most delivered in the San Joaquin Valley is for agricultural use. The agricultural areas served by the SWP are mainly the western portions of King and Kern counties. Maximum annual entitlement under the SWP totals over 4 million acre-feet. The reader is directed to the Department of Water Resources's Draft State Water Project Supplemental Water Purchase Program, Draft Environmental Impact Report, Description of Existing Environment, Appendix B, December 1996 (See Appendix D of this EA) for additional description of the environmental assessment.

Sacramento-San Joaquin River Delta - Neither of the proposed alternatives would change CVP Delta operations because the water being acquired is located south of the Delta and would be delivered to parties south of the Delta. Therefore, no discussion of Delta facilities or operations is needed or included in this EA.

3.1.2 Environmental Consequences

3.1.2.1 No-Action Alternative

Projected Deliveries in Water Year 2000 - Reclamation has preliminarily projected that Water Year 2000 deliveries to south-of-Delta agricultural water contractors will be 1,200,000 AF (60% supply). Preliminary projections for south-of-Delta municipal and industrial water contractors indicate deliveries will be 136,000 AF (85% supply). (U.S. Bureau of Reclamation 2000.) Projected deliveries for major contractors in the Delta, West San Joaquin and San Felipe Divisions under the No-Action Alternative are provided in Table 2-1. These contractors, as well as others affected, may attempt to make up for this shortfall through additional groundwater pumping or through individual water transfers from willing sellers (including KWBA and Vidler).

Water quality in San Luis Reservoir could be degraded if storage levels drop too far. When storage falls below this "low point", turbidity and algae become a concern for urban water agencies such as the Santa Clara Valley Water District (SCVWD).

3.1.2.2 Water Purchase Alternative

Under the Water Purchase Alternative, Reclamation would purchase up to (but likely much less than) 105,000 AF of water for delivery to CVP contractors in the West San Joaquin and San Felipe divisions during Water Year 2000 to augment the CVP allocation, manage San Luis Reservoir water quality associated with the reservoir "low-point" problem, or manage for unexpected pumping curtailments such as last summer's reduced pumping protection of Delta smelt. Based on current conditions, Reclamation expects that the funding available would purchase approximately 75,000 AF of water. The water would be distributed to CVP contractors in the three divisions using the allocation formulas that Reclamation normally uses for these contractors and SWP contractors. Allocations to south-of-Delta CVP agricultural water users could increase from the current allocation of 60% to a new allocation of 65%. Projected deliveries for each contractor in the Delta, West San Joaquin and San Felipe Divisions under the Water Purchase Alternative are provided in Table 2-1.

Some of the acquired water could also be made available for municipal and industrial uses by the San Benito County Water District (SBCWD) and the SCVWD. In 2000, these districts are entitled to 8,250 AF and 119,400 AF, respectively for municipal and industrial purposes. These two contractors are entitled to CVP water for both agricultural and municipal and industrial purposes. Based on the March forecast for CVP allocations, SBCWD and SCVWD will receive 85% of their municipal and industrial contractual entitlement. Under the Water Purchase Alternative, in 2000 they could receive an additional 5%, or a total of 90%, of their Municipal and industrial contractual entitlement.

Even with the acquired water, CVP water deliveries to south-of-Delta agricultural and M&I contractors would remain well below a 100% supply. Acquired water would be provided to SWP contractors only for the purpose of maintaining existing allocations. Since water deliveries to CVP and SWP contractors will be less than historical levels, the water purchase is not expected to have any effect on land use.

If the acquired water were temporarily stored in San Luis Reservoir before being delivered to contractors, water levels in San Luis Reservoir would temporarily be slightly higher than under the No-Project Alternative. Under these conditions, the water quality problems in San Luis Reservoir would be reduced or eliminated.

Water levels in other CVP and SWP reservoirs, canals, and pipelines would be within the range of normal operations. Similarly, water levels in the contractor's facilities also would remain within the range of normal operations. There would be less-than-significant effects on surface water.

3.1.2.3 Option Purchase Alternative

Under the Option Purchase Alternative, Reclamation would purchase options for up to 105,000 AF of water from KWBA and Vidler. It is not known how much water would be acquired through the exercise of the options. However, with a maximum of 50,000 AF available for purchase in any one year, water levels in CVP and SWP reservoirs, canals, and pipelines would remain within the range of normal operations. Similarly, water levels in the contractor's facilities also would remain within the range of normal operations. There would be less-than-significant effects on surface waters.

3.2 Groundwater

3.2.1 Affected Environment

San Joaquin Valley Basin - The southern two-thirds of the Central Valley regional aquifer system extends from just south of the Delta to just south of Bakersfield, and is referred to as the San Joaquin Valley Basin, covering over 13,500 square miles. The usable storage capacity of the San Joaquin Valley Basin has been estimated at 24 million AF. The most recent estimate of safe yield of the San Joaquin Valley Basin, made by the California Department of Water Resources (DWR), is approximately 3.3 million AF. DWR also estimated recent groundwater pumping for 1990 conditions (normalized) in the basin to be 3.5 million AF. All of the sub-basins within the San Joaquin Valley Basin have experienced some overdraft. (California Department of Water Resources 1994.) Current conditions in the San Joaquin Valley Basin are described extensively in another NEPA document (U.S. Bureau of Reclamation and San Joaquin River Group Authority 1999), which is herein incorporated by reference.

Santa Clara and San Benito Counties - Imported surface water from the CVP San Felipe Division is provided to Santa Clara and San Benito counties to supplement available supplies. Historically, these areas have been subject to groundwater mining, resulting in a decline in groundwater levels that led to land subsidence and seawater intrusion. The delivery of CVP surface water supplies to the San Felipe Division is intended to reduce the use of groundwater. (U.S. Bureau of Reclamation 1997.)

State Water Project - The reader is directed to the Department of Water Resources's Draft State Water Project Supplemental Water Purchase Program, Draft Environmental Impact Report, Description of Existing Environment, Appendix B (See Appendix C of this EA) for a description of the environmental setting for groundwater..

3.2.2 Environmental Consequences

3.2.2.1 No-Action Alternative

Under the No-Action Alternative, CVP agricultural contractors in the West San Joaquin and San Felipe divisions would likely receive 50% of the water specified in their contracts with Reclamation. Farmers within some contracting districts would likely make up all or some of this deficit by pumping groundwater. This could exacerbate existing groundwater overdraft problems in the San Joaquin Valley and in Santa Clara and San Benito counties. Similarly, urban contractors would likely receive only a 85% supply, and could make up some or all of the deficit with groundwater pumping which would also exacerbate existing groundwater overdraft problems.

3.2.2.2 Water Purchase Alternative

The delivery of up to 100,000 AF of additional surface water supplies to districts within the West San Joaquin and San Felipe divisions would likely reduce the amount of groundwater pumping by CVP contractors in these areas, compared to the No-Action Alternative. This would be a benefit to groundwater resources.

3.2.2.3 Option Purchase Alternative

The effects on groundwater under the Option Purchase Alternative would be very similar to those described above under the Water Purchase Alternative, except that a larger amount of water would likely be purchased. Also, the water exchange would take place over up to 3 years rather than all in Water Year 2000.

The same beneficial effects would occur for groundwater resources in the San Joaquin Valley and in Santa Clara and San Benito counties as under the Water Purchase Alternative.

3.3 Fish Resources

3.3.1 Affected Environment

San Luis Reservoir - San Luis Reservoir, managed exclusively for water supply needs, maintains a mixed fishery consisting of striped bass, largemouth bass, smallmouth bass, catfish, and rainbow trout.

Delta-Mendota Canal, California Aqueduct, and Other Distribution Facilities - No reproducing populations of native fish species or other species of concern occur within the Delta-Mendota Canal, the California Aqueduct, or any other water distribution facilities that would be utilized in this project.

3.3.2 Environmental Consequences

3.3.2.1 No-Action Alternative

Under the No-Action Alternative, water levels in San Luis Reservoir and in all conveyance facilities would remain within historic operating levels and fish resources would remain at existing levels.

3.3.2.2 Water Purchase Alternative

Under the Water Purchase Alternative, water levels in San Luis Reservoir and in all conveyance facilities could change slightly during Water Year 2000, compared to the No-Action Alternative, but these changes would be very small and very temporary, as the water left in O'Neill Forebay by the sellers would likely be immediately delivered to CVP and SWP contractors. No effects on important fish species would occur.

3.3.2.3 Option Purchase Alternative

Under the Option Purchase Alternative, the effects on fish would be similar to those described above under the Water Purchase Alternative, except that the changes could be spread out over 3 years and would be probably be smaller in any one year.

3.4 Vegetation and Wildlife

3.4.1 Affected Environment

Northern San Joaquin Valley - The information in this section applies to the entire northern portion of the San Joaquin Valley. Some of the information may not apply to the western portion of the valley, where actions described in this EA would occur. Nine common natural community types occur in the northern portion of the San Joaquin Valley: mixed conifer forest, montane hardwood, montane riparian, valley foothill hardwood, valley foothill riparian, chaparral, grassland, chenopod scrub, and fresh and saline wetlands. The largest numbers of special-status plant species are found in the grassland community which is the most abundant natural community in the region. Historically, the basin contained a large floodplain that supported vast expanses of permanent and seasonal marshes, lakes, and riparian areas. Almost 70% of the basin has been converted to irrigated agriculture with wetland acreage reduced to 120,300 acres. Even so, the basin contains the largest contiguous block of wetland habitat in the Central Valley. Much of the native vegetation in the San Joaquin River Basin has been replaced by introduced species or disturbed by cultivation or grazing. (California State Water Resources Control Board 1999.)

Although few large mammals remain in the San Joaquin Valley, the remnant habitat continues to support a diverse group of species. Coyotes, gray foxes, kit foxes, badgers, skunks, and

opossums feed on the many species of rodents, rabbits, reptiles, and insects on the valley floor. California and antelope ground squirrels make up the majority of large terrestrial rodents, while beaver and muskrat represent semi-aquatic species.

Millions of waterfowl associated with the Pacific Flyway overwinter in the valley wetlands. Raptor species, including bald eagles, prairie falcons, and great-horned owls, hunt in the wetlands, grasslands, and riparian habitats of the San Joaquin Valley. Many passerines, including species of flycatchers, swallows, warblers, blackbirds, and sparrows, nest and/or overwinter in the variety of habitats associated with the San Joaquin River Basin. Upland game birds include dove, pheasant, chukar, and quail; shorebirds include multiple species of gulls, terns, plovers, sandpipers, and egrets (California State Water Resources Control Board 1999)

Santa Clara County - Five major streams flow from their sources in the Santa Cruz and Diablo ranges to empty into San Francisco Bay: Coyote Creek, Guadalupe River, Stevens Creek, San Francisquito Creek, and Calabazas Creek. The banks of the streams and arroyos, prone to overbank flooding in the winter, supported a diverse and biologically rich habitat, densely wooded with cottonwoods, willows, and sycamores. (Santa Clara Valley Water District and U.S. Army Corps of Engineers 1997.)

After more than two centuries of agricultural development, cattle grazing, and urban development in the Santa Clara Valley, and the alteration of the region's streambanks, the overall extent and condition of existing riparian vegetation has been severely reduced. A major portion of the native riparian vegetation in this area has been altered. (Santa Clara Valley Water District and U.S. Army Corps of Engineers 1997.)

Santa Clara County has a diversity of habitats and a correspondingly diverse vertebrate community. California Department of Fish and Game's Wildlife Habitat Relationships database predicts that 211 species of birds, 60 species of mammals, and 43 species of reptiles and amphibians are regularly found within the County (Santa Clara Valley Water District and U.S. Army Corps of Engineers 1997). In 1992, 16 plant and wildlife species listed under either the ESA or CESA were identified in Santa Clara County (County of Santa Clara 1994).

San Benito County - San Benito County contains six general habitat community types: valley grassland, riparian, chaparral, oak woodland, conifer forest, and wetlands. There are 11 wildlife species listed as threatened or endangered under ESA or CESA. An additional 26 species are candidate species or species recognized by the State of California to be "Species of Special Concern". (County of San Benito 1994.)

State Water Project - For a description of the environmental setting for vegetation and wildlife within the SWP, refer to the Department of Water Resources's Draft State Water Project Supplemental Water Purchase Program, Draft Environmental Impact Report, Description of Existing Environment, Appendix B (See Appendix C of this EA).

3.4.2 Environmental Consequences

3.4.2.1 No-Action Alternative

Under the No-Action Alternative, all facilities would operate within normal operating levels. No changes to vegetation and wildlife resources are expected.

3.4.2.2 Water Purchase Alternative

Under the Water Purchase Alternative, all facilities would continue to operate within normal operating levels. Water levels in San Luis Reservoir would not fluctuate substantially compared to levels in the No-Action Alternative. Under the water purchase alternative, CVP deliveries would be below contract deliveries for both south-of-Delta agricultural and M&I contractors. Therefore, no new agricultural land would be brought into production and no changes in urban land uses would be expected under the Water Purchase Alternative. Therefore, no substantial effects on vegetation or wildlife in the San Joaquin Valley, Santa Clara County, or San Benito County would occur.

3.4.2.3 Option Purchase Alternative

Effects on vegetation and wildlife under the Option Purchase Alternative are expected to be similar to those described under the Water Purchase Alternative, except that the water exchanges could occur over up to 3 years rather than in 1 year and the changes in any one year may be less. No substantial effects are expected.

3.5 Energy

3.5.1 Affected Environment

CVP - The CVP hydroelectric facilities are part of the large multipurpose CVP encompassing such beneficial uses as power production, flood control, irrigation water supply, municipal and industrial (M&I) water supply, fish and wildlife, water quality, wetlands maintenance, navigation, and recreation. The major driving factors in power plant operation are the required downstream water releases, the electric system needs, and project-use demand. The CVP power facilities, including 11 hydroelectric power plants and consisting of 38 generators, have a total maximum generating capacity of 2,070 megawatts. The CVP power plants have produced an annual average of 5 million kilowatt-hours in the last 18 years, enough energy for annual residential needs of more than 1,600,000 people or the energy equivalent of 10 million barrels of crude oil. San Luis Reservoir produces power by making releases through the San Luis Pumping-Generating Plant. (U.S. Bureau of Reclamation 1999.)

State Water Project - For the environmental setting for power, please refer to the Department of Water Resources's Draft State Water Project Supplemental Water Purchase Program, Draft Environmental Impact Report, Description of Existing Environment, Appendix B (See Appendix C of this EA).

3.5.2 Environmental Consequences

3.5.2.1 No-Action Alternative

Under the No-Action Alternative, no changes in CVP operations would occur compared to existing conditions.

3.5.2.2 Water Purchase Alternative

Under the Water Purchase Alternative, only relatively small changes in CVP operations would occur. Therefore, only very minor changes in the amount of energy generated and consumed by the system would occur, but in the context of the entire CVP system, this amount of energy is very small.

3.5.2.3 Option Purchase Alternative

Under the Option Purchase Alternative, the effects on energy consumption would be very similar to those under the Water Purchase Alternative, except that the effects could be spread out over 3 years and the effects in any one year could be less.

3.6 Recreation

3.6.1 Affected Environment

San Luis Reservoir State Recreation Area - The San Luis Reservoir State Recreation Area (San Luis Reservoir SRA) is located in Merced County near the Pacheco Pass in San Joaquin Valley. The San Luis Reservoir SRA, operated by the Department of Parks and Recreation, covers approximately 12,700 surface acres. Major components of the San Luis Reservoir SRA are the recreational facilities that accommodate boating, waterskiing, fishing, picnicking, camping, hunting, and trail use activities (California State Water Resources Control Board 1999). The reservoir averages 210,000 visitor days per year.

Delta-Mendota Canal and the California Aqueduct - Public access to the Delta-Mendota Canal is limited to Site 2A in Stanislaus County and Site 5 in Fresno County. Fishing is the primary recreation activity at both these sites. Public access is allowed along 343 miles of the California Aqueduct.

Santa Clara County - Santa Clara County contains a great diversity of natural resources, including salt marshes, oak woodlands, and redwood groves. In addition, there are a number of developed park areas, including linear parks being developed along the Guadalupe River, Coyote Creek, Los Gatos Creek, and Stevens Creek.

San Benito County - Recreation opportunities in San Benito County occur on both public and private lands. Public recreation opportunities include hiking, bird watching, rock climbing, equestrian activities, picnicking, golfing, hunting, off-road vehicle use, fishing, and sailing. The largest public recreation sites include Pinnacles National Monument, San Justo Reservoir, the Hollister Hills State Vehicular Recreation Area, and the Bureau of Land Management Clear Creek Recreation Area. (County of San Benito 1994.)

3.6.2 Environmental Consequences

3.6.2.1 No-Action Alternative

No changes to river or canal flows or water levels in San Luis Reservoir would occur under the No-Action Alternative.

3.6.2.2 Water Purchase Alternative

No changes in river flows would occur under the Water Purchase Alternative, and changes in canal flows would be very small and temporary. Similarly, changes in water levels in San Luis Reservoir would be small and temporary under the Water Purchase Alternative. Therefore, no substantial changes in recreation opportunities or changes in recreation activity are expected to occur.

3.6.2.3 Option Purchase Alternative

The effects of the Option Purchase Alternative would be very similar to those under the Water Purchase Alternative, except that the changes could occur over a 3-year period and the effects in any one year could be less.

3.7 Cultural Resources

3.7.1 Affected Environment

San Joaquin Valley - This discussion incorporates by reference pages II-1 through II-52 of the Draft Programmatic Environmental Impact Statement (EIS) - Technical Appendix Volume Six (U.S. Bureau of Reclamation 1997). It also incorporates by reference pages 3-105 through 3-113 of the EIS and EIR for meeting the flow objectives for the San Joaquin River Agreement 1999-2010 (U.S. Bureau of Reclamation and San Joaquin River Group Authority 1999). Table 3-1

summarizes existing known cultural resources sites in five counties (U.S. Bureau of Reclamation 1997).

Table 3-1
Existing Cultural Resources in the Project Study Area

County	Percent of County Surveyed for Cultural Resources	Sites Recorded	Overall Degree of Disturbance
San Joaquin	5	249	Low to moderate
Merced	2	341	Low
Madera	1-2	2,074	Low
Fresno	5	1,527	Low
San Benito	5	203	Low

Source: U.S. Bureau of Reclamation 1997.

Santa Clara County - In addition to an unknown number of prehistoric sites, Santa Clara County contains at least 76 properties listed in the National Register of Historic Places, 41 California Historic Landmarks, 149 sites in the California Inventory of Historic Resources, and 60 California Points of Historical Interest.

3.7.2 Environmental Consequences

3.7.2.1 No-Action Alternative

Under the No-Action Alternative, no construction, ground-breaking, changes in land use, or fluctuations in reservoir storage or stream levels beyond historic and recent levels would occur.

3.7.2.2 Water Purchase Alternative

The Water Purchase Alternative would not involve any construction, ground-breaking, changes in land use, or fluctuations in reservoir storage or stream levels beyond historical and recent levels. Therefore, it would not disturb any archaeological and cultural resources within project areas or interfere with the observation of religions or other ceremonies associated with cultural expression.

3.7.2.3 Option Purchase Alternative

The Option Purchase Alternative would not involve any construction, ground-breaking, changes in land use, or fluctuations in reservoir storage or stream levels beyond historical and recent

levels. Therefore, it would not disturb any archaeological and cultural resources within project areas or interfere with the observation of religions or other ceremonies associated with cultural expression.

3.8 Environmental Justice

Executive Order 12898 requires each Federal agency to achieve environmental justice as part of its mission by identifying and addressing disproportionately high adverse human health or environmental effects, including social and economic effects, of its programs and activities on minority populations and low-income populations of the United States.

3.8.1 Affected Environment

The San Joaquin Valley has a relatively high proportion of Hispanics. The per capita and median household incomes are all lower than the averages for the state, over 12% of the housing is substandard, and the unemployment rate in 1995 was over 14% (U.S. Bureau of Reclamation and San Joaquin River Group Authority 1999). Minority and low-income populations in Santa Clara and San Benito counties also have high proportions of Hispanics.

3.8.2 Environmental Consequences

No significant changes in agricultural commodities or practices are expected to result from implementation of either alternative. Neither will implementation of either alternative significantly alter employment opportunities or housing availability. Accordingly, neither alternative will have any significant or disproportionate impact on low-income or minority individuals. Conversely, either alternative could provide water to CVP farmers that otherwise may not obtain that water. Since the supply of irrigation water is directly connected to the success of farming, either alternative could sustain employment opportunities through a growing season and harvest that otherwise would not occur. Laborers that would benefit would consist largely of itinerant workers from Central and South America (U.S. Bureau of Reclamation 1997).

3.9 Indian Trust Assets

3.9.1 Affected Environment

It is Reclamation's policy to protect Indian trust assets from adverse impacts of its programs and activities whenever possible. Types of actions that could affect Indian trust assets include an interference with the exercise of a reserved water right, degradation of water quality where there is a water right, impacts on fish and wildlife where there is a hunting or fishing right, or noise near a land asset where it adversely affects uses of the reserved land (U.S. Bureau of Reclamation 1997).

3.9.2 Environmental Consequences

None of the alternatives would result in any ground-breaking activities affecting any Indian reservations, rancherias, or other legal interests held in trust by the United States for the benefit of Indian tribes or individual Indians. No changes in river flows would occur as a result of implementing either of the alternatives, so no Indian trust assets located adjacent to rivers would be affected either.

3.10 Other Resources

Neither of the alternatives, if implemented, would have significant environmental effects on any of the following resources in any geographic areas: aesthetics, geology and soils, hazards and hazardous materials, mineral resources, land use, noise, population and housing, public services, transportation and traffic, or utilities and service systems. There are no land development activities associated with any of the alternatives, and there would not be any changes in operations that would require new construction of facilities resulting from implementing any of the alternatives. Under each alternative affected water facilities would operate within normal, historical, and recent operational patterns. Environmental documentation for these facilities and operations is extensive and hereby incorporated by reference (U.S. Bureau of Reclamation 1992).

3.11 Effects of Implementing the Water Purchase Alternative and the Option Purchase Alternative in Combination

It is possible that Reclamation will decide to implement a combination of the Water Purchase Alternative and the Option Purchase Alternative. Reclamation may decide to purchase a combination of options and water purchases from KWBA and/or Vidler. Since implementing either of the alternatives to their maximum levels would have no substantial environmental effects, implementing a combination of the two alternatives at less than maximum water quantities also would not have any substantial environmental effects.

3.12 Summary of Impacts

Table 3-2 provides a comparison of the effects of the alternatives. The effects of both of the project alternatives are addressed. As indicated in Table 3-2, neither of the alternatives would have any substantial adverse effects; neither would a combination of the two alternatives create any substantial adverse effects..

Table 3-2
Summary Comparison of Impacts

Effect	Project Element/ Alternative	Level of Significance Before Mitigation	Recommended Mitigation	Level of Significance After Mitigation
Surface Water	KWBA Water Purchase	Less-than-Significant	None	N/A
	Vidler Water Purchase	Less-than-Significant	None	N/A
	KWBA Option Purchase	Less-than-Significant	None	N/A
	Vidler Option Purchase	Less-than-Significant	None	N/A
Groundwater	KWBA Water Purchase	Less-than-Significant	None	N/A
	Vidler Water Purchase	Less-than-Significant	None	N/A
	KWBA Option Purchase	Less-than-Significant	None	N/A
	Vidler Option Purchase	Less-than-Significant	None	N/A
Fish Resources	KWBA Water Purchase	Less-than-Significant	None	N/A
	Vidler Water Purchase	Less-than-Significant	None	N/A
	KWBA Option Purchase	Less-than-Significant	None	N/A
	Vidler Option Purchase	Less-than-Significant	None	N/A
Vegetation and Wildlife	KWBA Water Purchase	Less-than-Significant	None	N/A

Effect	Project Element/ Alternative	Level of Significance Before Mitigation	Recommended Mitigation	Level of Significance After Mitigation
	Vidler Water Purchase	Less-than-Significant	None	N/A
	KWBA Option Purchase	Less-than-Significant	None	N/A
	Vidler Option Purchase	Less-than-Significant	None	N/A
Energy	KWBA Water Purchase	Less-than-Significant	None	N/A
	Vidler Water Purchase	Less-than-Significant	None	N/A
	KWBA Option Purchase	Less-than-Significant	None	N/A
	Vidler Option Purchase	Less-than-Significant	None	N/A
Recreation	KWBA Water Purchase	Less-than-Significant	None	N/A
	Vidler Water Purchase	Less-than-Significant	None	N/A
	KWBA Option Purchase	Less-than-Significant	None	N/A
	Vidler Option Purchase	Less-than-Significant	None	N/A
Cultural Resources	KWBA Water Purchase	Less-than-Significant	None	N/A
	Vidler Water Purchase	Less-than-Significant	None	N/A
	KWBA Option Purchase	Less-than-Significant	None	N/A

Effect	Project Element/ Alternative	Level of Significance Before Mitigation	Recommended Mitigation	Level of Significance After Mitigation
	Vidler Option Purchase	Less-than-Significant	None	N/A
Environmental Justice	KWBA Water Purchase	Less-than-Significant	None	N/A
	Vidler Water Purchase	Less-than-Significant	None	N/A
	KWBA Option Purchase	Less-than-Significant	None	N/A
Indian Trust Assets	KWBA Water Purchase	Less-than-Significant	None	N/A
	Vidler Water Purchase	Less-than-Significant	None	N/A
	KWBA Option Purchase	Less-than-Significant	None	N/A
	Vidler Option Purchase	Less-than-Significant	None	N/A
Other Resources	KWBA Water Purchase	Less-than-Significant	None	N/A
	Vidler Water Purchase	Less-than-Significant	None	N/A
	KWBA Option Purchase	Less-than-Significant	None	N/A
	Vidler Option Purchase	Less-than-Significant	None	N/A

Effect	Project Element/ Alternative	Level of Significance Before Mitigation	Recommended Mitigation	Level of Significance After Mitigation
Effects of Implementing the Water Purchase Alternative and the Option Purchase Alternative in Combination	----------	Less-than-Significant	None	N/A
Cumulative Effects of the Alternatives with Other Actions	----------	Less-than-Significant	None	N/A

4.0 CUMULATIVE EFFECTS

Cumulative effects result from the incremental impact of the proposed water acquisitions when added to other past, present, and reasonably foreseeable future actions, regardless of which agency or entity undertakes them. Cumulative effects can result from individually minor, but collectively significant, actions taking place over time. CALFED actions, CVPIA actions, and ongoing CVP and SWP operations and actions, in particular, are all highly adaptable programs subject to great change as hydrologic, environmental, regulatory, and water supply conditions change. Because the Proposed Action increases operational flexibility, analysis of cumulative effects must necessarily be speculative and general.

4.1 Affected Environment

Table 4-1 presents a list of other past, present, and reasonably foreseeable future actions that, in combination with the Proposed Action, could contribute to cumulative impacts. Ongoing operations of CVP, SWP, CALFED's Operations Group, and contractors are complex and part of the affected environment. Both CVP and SWP are complex networks of reservoirs and delivery systems. CVP management decisions to provide water for fish and wildlife protection, restoration and mitigation, irrigation and domestic water supplies, and power generation are necessarily complex as Reclamation balances water supplies with water needs. In developing operations decisions, Reclamation uses criteria related to reservoir operations and storage, downstream conditions and needs, prevailing water rights and environmental requirements, flood control requirements, carryover storage objectives, reservoir recreation, power production capabilities, cold water reserves, pumping costs, contract requirements, and other factors. The possibility of using multiple water sources for some requirements and environmental opportunities adds flexibility to project operations and complexity to operations decisions. Reclamation operates the CVP as an integrated project in which the operation of each facility affects the operation of others, thereby water is commingled in meeting obligations and purposes of the project.

Reclamation has previously purchased water in the San Joaquin Valley from water rights holders to improve flows for fish and wildlife, for wetland habitats, and to supplement existing water supplies. Water also has been purchased or exchanged on an annual basis between many of the agricultural users in the San Joaquin Valley. This cumulative evaluation focuses primarily on water acquisitions and transfers (including the Proposed Action) that could overlap implementation of either alternative either spatially or temporally.

Table 4-1
Other Past, Present, and Reasonably Foreseeable Future Actions

Involved Parties	Water Quantity	Water Use	Status	Time Frame
Joint Point of Diversion - Reclamation and DWR	Up to 300 thousand acre-feet (TAF)	Increase operational flexibility of CVP and SWP	Proposed action before State Water Resources Control Board	February-April 2000
Increase Permitted Pumping Rate at Harvey O. Banks Pumping Plant by 500 cubic fees per second (cfs) - DWR	70-90 TAF	Increase operational flexibility of SWP	Potential	July-September 2000
Allowing Flexibility in Delta Import/Export Ratio - CALFED Operations Group	Variable	Increase operational flexibility of SWP	Ongoing	Ongoing
Source Shifting - Metropolitan Water District of Southern California	60 TAF	Increase operational flexibility of SWP	Potential	Spring 2000
Source Shifting - Kern County Interests	50-90 TAF	Increase operational flexibility of SWP	Potential	Spring 2000
San Joaquin River Exchange Contractors water transfer to San Joaquin Valley wetlands and/or CVP contractors	Up to 84 TAF	Agricultural water supply or wetland enhancement	Proposed transfer - Recla-mation Reviewing	March 2000-February 2005

Involved Parties	Water Quantity	Water Use	Status	Time Frame
San Joaquin River Group Association (SJRGA) to Reclamation	110 TAF VAMP flow, 12.5 TAF October flow, 15 TAF from Oakdale Irrigation District (any time)	To meet water quality standards at Vernalis and in-stream flows	Approved by SJRGA; Record of Decision signed April 12, 1999.	1999-2010
San Luis Canal Company to San Joaquin Valley wildlife refuges	10 TAF	Wetland enhancement	Proposed - draft EA circulating	Remainder of 1999/2000 water service period
Semitropic Water Storage District to San Joaquin Valley wildlife refuges	10 TAF	Wetland enhancement	Proposed - draft EA circulating	Remainder of 1999/2000 water service period
Tri-Valley Irrigation District, Hills Valley Irrigation District and County of Tulare to Reclamation	7 TAF	Level 4 water supply for wetlands	Pending	February 2000
South County Surface Water Supply Project	31 TAF (Phase I), 44 TAF total	Municipal and industrial water supply	Draft EIR published	2003-2025
Oakdale Irrigation District and South San Joaquin Irrigation District to Stockton East Water District	30 TAF	Agricultural water supply	In progress	10 years
Miscellaneous Small Transfers[3]	43 TAF Total	Various	Ongoing	Continuous

Sources: U.S. Bureau of Reclamation and San Joaquin River Exchange Contractors Water Authority 1999.

[3] A list of the individual transfers and their amounts is provided in Appendix A.

4.1.1 Related Projects

Acting through Reclamation and DWR, CALFED is considering a number of actions in addition to the acquisition of south-of–the-Delta water supplies to increase operational flexibility during Water Year 2000. Other actions being considered include:

- requesting authority for CVP and SWP to temporarily share points of diversion ("Joint Point"),
- requesting authority to temporarily increase the pumping rate at the Harvey O. Banks Pumping Plant by 500 cfs,
- requesting authority to temporarily exceed mandated Delta import/export ratios,
- paying the Metropolitan Water District of Southern California to temporarily draw its water needs from its storage reservoirs rather than from San Luis Reservoir, and
- paying Kern County interests to temporarily draw on ground water for their needs rather than from San Luis Reservoir.

The San Joaquin River Exchange Contractors Water Authority (Exchange Contractors) have submitted a separate proposal to Reclamation pursuant to the Central Valley Project Improvement Act (CVPIA) for the transfer of up to 84,000 acre-feet (AF) of CVP water supplies per year for 5 years to San Joaquin Valley wetlands habitat or any one or more of nine CVP agricultural water users[4]. Reclamation may use some of the money provided by CALFED to acquire water from the Exchange Contractors in Water Year 2000. Although the source of funds for acquiring water is not described in the draft EA for the acquisition from the Exchange Contractors, the environmental effects of the acquisition are described. Although the same source of money may be used for that acquisition as the one described in this EA, the Exchange Contractors' acquisition is not under consideration in this EA except for cumulative effects.

Finally, the draft Year 2000 budget submitted to the California Legislature by the Governor contained a line item that provides "$10 million for DWR to acquire water to assist public water agencies in reducing impacts from near-term water shortages". This budget item has not yet been approved by the California Legislature.

Separate environmental documentation will be needed prior to implementing any of these other actions. Although these additional actions are not the subject of this EA, the effects of all of these

[4] These districts are: Westlands Water District, Broadview Water District, Panoche Water District, Pacheco Water District, San Luis Water District, Del Puerto Water District, Patterson Water District, Plainview Water District, and San Benito County Water District.

actions, in combination with the Proposed Action and other past, present, and reasonably foreseeable future actions, are considered in this section.

4.1.2 Environmental Consequences

Surface Water

Both the Water Purchase Alternative and the Option Purchase Alternative would result in minor, temporary changes in the operations of CVP facilities south of the Delta. The other projects in Table 4-1 would result in minor changes in CVP and SWP operations. Given the flexibility of the operations of the CVP and SWP systems, especially south of the Delta, the relatively small size and short duration of the cumulative projects, neither alternative would contribute to adverse cumulative impacts to surface water supplies. In fact, both would lead to more efficient use of available surface water supplies by utilizing groundwater resources to supplement surface water supplies.

Groundwater

Because of their small size and short duration, neither the Water Purchase Alternative nor the Option Purchase Alternative would result in permanent or irrevocable changes to groundwater within the Proposed Action's project area. In fact, they would incrementally improve the overall groundwater situation in areas where overdraft situations exist (San Joaquin Valley and Santa Clara and San Benito counties) by providing additional surface water supplies. Therefore, when added to other past or present activities by Reclamation or other government or private entities, neither alternative would have a significant adverse cumulative effect on groundwater resources.

Fish Resources

Neither alternative would adversely effect important fish resources, so neither would contribute to adverse cumulative effects on fish resources.

Vegetation and Wildlife

The size and short duration of either alternative would preclude any adverse effects on vegetation and wildlife resources. Therefore, neither alternative would contribute to adverse cumulative effects on these resources.

Energy

The size and short duration of either alternative would preclude any adverse effects on energy resources, especially given the scale of the CVP power generating and consumption patterns. Therefore, neither alternative would contribute to adverse cumulative effects on these resources.

Recreation

The size and short duration of either alternative would preclude any adverse effects on recreation resources. Therefore, neither alternative would contribute to adverse cumulative effects on these resources.

Cultural Resources

Neither alternative would have an adverse effect on cultural resources and would therefore not contribute to an adverse cumulative effect on these resources.

Environmental Justice

Neither alternative would have an adverse effect on minority and low-income populations, and may provide minor benefits from slightly increased agricultural or M&I production. Therefore, neither would contribute to an adverse cumulative effect disproportionately on these populations.

Indian Trust Assets

Neither alternative would have any effect on Indian trust assets and would therefore not contribute to an adverse cumulative effect on these assets.

Other Resources

Neither alternative would have any effect on other resources and would therefore not contribute to an adverse cumulative effect on any of these resources.

5.0 CONSULTATION AND COORDINATION

5.1 Public Involvement and Scoping

Interior staff have made numerous project briefings to member agencies of the CALFED Bay-Delta Program. The potential water acquisitions were described in detail, and feedback received from the agencies and stakeholders were considered when preparing this EA. Weekly meetings were scheduled between Reclamation, Service, and DWR staff to define and describe the proposed project and the associated EA.

A draft version of this EA was circulated to interested parties for review and comment from January 28 to February 21, 2000. A press release (Appendix B) announcing the availability of the draft EA was sent to the distribution list provided in Appendix C.

5.2 Consultation and Coordination

The preparation of this document was the cooperative effort of an interagency, interdisciplinary team. This team consisted of individuals from Reclamation, DWR, and the Service. In addition to ongoing discussion and coordination during EA preparation, Reclamation initiated informal consultation pursuant to the ESA with the Service regarding the effects of the proposed water acquisition on listed species. Reclamation received a memorandum from the Service dated May 19, 2000, stating that the Service concurred that the proposed action as described in the FONSI is not likely to adversely effect listed species nor adversely modify any designated critical habitat. Continuing and close coordination with the Service during preparation of this EA has met any applicable requirement of the Fish and Wildlife Coordination Act.

The proposed action will not have an effect on historic properties. If it is discovered that historic properties are affected as the result of the Proposed Action, in compliance with Section 106 of the National Historic Preservation Act, Reclamation will consult with the State Historic Preservation Officer and the Advisory Council on Historic Preservation.

5.3 List of Preparers

Principal Preparers
Phil Dunn, Jones & Stokes
Craig Stevens, Jones & Stokes
Mary Lee Knecht, Jones & Stokes

Agency Reviewers
Steve Hirsch, U.S. Bureau of Reclamation
Kellye Kennedy, U.S. Bureau of Reclamation
Paul Fujitani, U.S. Bureau of Reclamation
John Thomson, U.S. Fish and Wildlife Service

6.0 REFERENCES

California Department of Water Resources. 1994. Comments of the Department of Water Resources at the Third Public Workshop of the Review of Standards for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary. Presented by David Anderson and Edward Winkler. June 14, 1991

California State Water Resources Control Board. 1999. Final Environmental Impact Report for Implementation of the 1995 Bay/Delta Water Quality Control Plan, Volume 1. November 1999. Sacramento, California.

County of San Benito. 1994. San Benito County General Plan, Environmental Resources and Constraints Inventory. Adopted July 26, 1994. Hollister.

County of Santa Clara, Planning Office. 1994. Santa Clara County General Plan, Public Review Draft. San Jose, California.

Kern County Water Agency. 1996. Final Program Environmental Impact Report for Artificial Recharge, Storage and Overdraft Correction Program, Kern County, California. December, 1986. Bakersfield, California.

Kern County Water Agency. 1996. Initial Study and Proposed Negative Declaration for the Pioneer Groundwater Recharge and Recovery Project. November 1996. Bakersfield, California

Kern Water Bank Authority. 1997. Volume IV (NEPA/Federal Endangered Species Act and California Environmental Quality Act/California Endangered Species Act Compliance Documentation) of the Kern Water Bank Habitat Conservation Plan. October 2, 1997. Bakersfield, California

Santa Clara Valley Water District and U.S. Army Corps of Engineers. 1997. Draft Environmental Impact Report/Environmental Impact Statement for the Upper Guadalupe River Flood Control Project. January 1997. San Jose, California.

Semitropic Water Storage District and Metropolitan Water District of Southern California. 1994. Semitropic Groundwater Banking Project Final Environmental Impact Report - Findings and Mitigation Monitoring Plan. July 1994. Wasco, California.

U.S. Bureau of Reclamation. 1992. Long-Term Central Valley Project Operations Criteria and Plan CVP-OCAP. October 1992. Mid-Pacific Regional Office. Sacramento, CA.

U.S. Bureau of Reclamation. 1997. Draft Programmatic Environmental Impact Statement, Central Valley Project Improvement Act, Volume 6. September 1997. Sacramento, CA.

U.S. Bureau of Reclamation. 1997. Final Environmental Assessment 1997 Central Valley Project-Metropolitan Water District Operational Water Exchange Agreement, San Luis Unit-San Luis Reservoir. June 1997 (Revised: September 17, 1997). South-Central California Area Office. Fresno, CA.

U.S. Bureau of Reclamation. 1999. Final Environmental Assessment and Finding of No Significant Impact, The Temporary Acquisition of Water For Fish and Wildlife Purposes on the Yuba and Stanislaus Rivers. June 1999. Mid-Pacific Regional Office. Sacramento, CA.

U.S. Bureau of Reclamation and San Joaquin River Exchange Contractors Water Authority. 1999. Temporary Water Transfer Program for the San Joaquin River Exchange Contractors Water Authority 2000-2004 Environmental Assessment and Initial Study–Draft. December 22, 1999. South Central California Area Office. Fresno, California.

U.S. Bureau of Reclamation and San Joaquin River Group Authority. 1999. Environmental Assessment and Initial Study, Additional Water Acquisition for Meeting VAMP Flow Objectives, 1999. January 28, 1999. Mid-Pacific Regional Office. Sacramento, California.

U.S. Bureau of Reclamation. 2000. News Release: Bureau of Reclamation Updates Water Allocations for Water Year 2000. March 20, 2000. Mid-Pacific Regional Office. Sacramento, California.

U.S. Fish and Wildlife Service. 1997. Final Environmental Assessment For The Issuance of an Incidental Take Permit Under Section 10(a)(1)(B) of the Endangered Species Act For The Kern Water Bank Project

Vidler Water Company and Semitropic Water Storage District. 1998. Agreement Between Vidler Water Company, Inc. and Semitropic Water Storage District and Its Improvement Districts for a Vidler-Semitropic Water Banking and Exchange Program. Signed October 8, 1998.

7.0 ABBREVIATIONS AND ACRONYMS

AF	acre-feet
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
cfs	cubic feet per second
CVP	Central Valley Project
CVPIA	Central Valley Project Improvement Act
DWR	California Department of Water Resources
EA	environmental assessment
EIR	environmental impact report
EIS	environmental impact statement
ESA	Endangered Species Act
Exchange Contractors	San Joaquin River Exchange Contractors Water Authority
FONSI	Finding of No Significant Impact
HCP	Habitat Conservation Plan
KCWA	Kern County Water Agency
KWB	Kern Water Bank
KWBA	Kern Water Bank Authority
M&I	municipal and industrial
NEPA	National Environmental Policy Act
Reclamation	U.S. Bureau of Reclamation
SJRGA	San Joaquin River Group Association
San Luis Reservoir SRA	San Luis Reservoir State Recreation Area
Service	U.S. Fish and Wildlife Service
SWP	State Water Project
Vidler	Vidler Water Company

APPENDIX A

MISCELLANEOUS SMALL INTRA-CVP WATER TRANSFERS

Table A-1
Miscellaneous Small Intra-CVP Water Transfers

			Acre Feet	
Date	From	To	Requested	Approved
10/7/99	BCID	DPWD	4,000	4,000
10/7/99	BWD	PWD	750	750
10/7/99	PWD	SLWD	250	250
10/7/99	TrID	WWD	3,730	3,730
10/7/99	TrID	WWD	1,215	1,215
10/7/99	WSID	MSWD	400	400
10/18/99	MSWD	SLWD	90	90
10/18/99	PWD	WWD	83	83
10/26/99	DPWD	WWD	800	800
11/1/99	BWD	WWD	1,000	1,000
11/1/99	DPWD	SLWD	60	60
11/1/99	PWD	WWD	1,000	1,000
11/1/99	WStID	DPWD	3,600	3,600
11/2/99	CenWD	DPWD	400	400
11/2/99	DPWD	SLWD	200	200
11/2/99	DPWD	WWD	310	310
11/2/99	MSWD	WWD	900	900
11/2/99	PVWD	DPWD	580	580
11/2/99	SBCWD	WWD	6,500	6,500
11/2/99	WiWD	WWD	1,500	1,500
11/2/99	WSID	MSWD	145	145
11/18/99	DPWD	WWD	1,900	1,900
11/18/99	MSWD	PWD	90	90
11/18/99	TrID	WWD	471	471
11/19/99	BWD	PWD	450	450
11/19/99	DPWD	PWD	259	259

Table A-1
Miscellaneous Small Intra-CVP Water Transfers

			Acre Feet	
Date	From	To	Requested	Approved
11/19/99	SLWD	PWD	1,332	1,332
12/1/99	DPWD	WWD	740	740
12/2/99	MSWD	SLWD	50	50
12/6/99	BCID	SLWD	400	400
12/6/99	DPWD	WStID	600	600
12/6/99	PWD	WWD	103	103
12/7/99	DPWD	WWD	400	400
12/17/99	Tracy	WWD	2,300	2,300
12/28/99	DPWD	WWD	40	40
12/28/99	FSWD	WWD	300	300
12/28/99	MSWD	WWD	586	586
12/28/99	RD 1606	WWD	146	146
12/28/99	SBCWD	SLWD	1,150	1,150
12/28/99	SBCWD	WWD	800	800
12/29/99	DPWD	SLWD	60	60
12/29/99	SBCWD	PWD	50	50
1/6/00	BWD	PWD	150	150
1/6/00	DPWD	WWD	640	640

Note:

BCID	=	Banta-Carbona Irrigation District
BWD	=	Broadview Water District
CenWD	=	Centinella Water District
DPWD	=	Del Puerto Water District
FSWD	=	Fresno Slough Water District
MSWD	=	Mercy Springs Water District
PVWD	=	Plain View Water District
PWD	=	Panoche Water District
RD 1606	=	Reclamation District 1606
SBCWD	=	San Benito County Water District
SCCAO	=	Southern California Area Office
SLWD	=	San Luis Water District
TrID	=	Tranquillity Irrigation District
WiWD	=	Widren Water District
WSID	=	West Side Irrigation District
WStID	=	West Stanislaus Irrigation District
WWD	=	Westlands Water District

APPENDIX B

PRESS RELEASE ANNOUNCING THE AVAILABILITY OF THE DRAFT EA

APPENDIX C

DISTRIBUTION LIST FOR DRAFT EA

APPENDIX D
COMMENT LETTERS RECEIVED ON DRAFT EA ALONG WITH RESPONSE TO EACH LETTER

Letter #1 - Karna E. Harrigfeld, representing the Stockton East Water District (SEWD)

1-1: Comment noted.

1-2: Comment noted.

1-3: Comment noted.

1-4: Comment noted.

1-5: Yes, the $10,000,000 contained in the draft Year 2000 California state budget is in addition to the $10,000,000 which is the subject of this EA/FONSI.

1-6: Comment noted.

Letter #2 - Dante John Nomellini, Jr., Central Delta Water Agency

2-1: The proposed project would not result in impacts on operations or flows in the San Joaquin River. Operations and flows in the San Joaquin River would be identical under both the No-Action Alternative and either of the project alternatives.

2-2: Comment noted.

2-3: Reclamation continues to work towards the long-term resolution of drainage issues in the San Joaquin Valley. Until there is a long-term resolution, Reclamation intends to continue to support the Grasslands Bypass Project (GBP) and assumes the project will continue through the term of all of the alternatives. The GBP involves the use of a 28 mile segment of the San Luis Drain to convey agricultural drainage water to the San Joaquin River. In September 1996, the United States entered into the Grasslands Bypass Use Agreement (Agreement) with the San Luis Delta Mendota Water Authority (Authority). Since initiation of the project, selenium, salt, and other constituents discharged from the project area to the San Joaquin River have been reduced. This Agreement sets limits on selenium load on a monthly and annual basis, and these limits require annual reductions in discharges each year as the project proceeds. Those districts likely to receive acquired water which could potentially affect drainage in the San Joaquin River are members of the Authority and therefore have agreed to comply with the provisions of the Agreement. Discharge limits established in the Agreement will be adhered to under both the No-Action Alternative as well as under the Water Purchase Alternative (Water Year 2000) and Option Purchase Alternative (multi-year).

2-4: CVP contractors within the West San Joaquin and San Felipe divisions are projected to receive CVP water allocations of less than 100 percent under the No-Action Alternative. The purchase of water by Reclamation under either the Water Purchase Alternative or the Option Purchase Alternative is intended to reduce the shortfall, not to provide “new” or “additional” CVP water supplies. Consequently, the acquired water in combination with the supplies provided under the No-Action Alternative would still be within historical CVP deliveries.

As described in the EA, Reclamation would provide acquired water to contractors within the West San Joaquin and San Felipe divisions of the CVP pursuant to the terms and conditions of their current contracts for water service. The specific contractors who will receive acquired water were identified in Table 2-1 of the draft EA. Table 2-1 has been revised in the Final EA to include current estimated water deliveries for each CVP Contractor likely to receive acquired water under both the No-Action Alternative and under the Water Purchase Alternative. Reclamation cannot know which districts would exercise options under the Option Purchase Alternative, so water deliveries to specific contractors cannot be predicted for that alternative.

Section 3.2.2.1 of the EA states that under the No-Action Alternative farmers within some of the contracting districts would likely make up all or some of the shortfall by pumping groundwater. Therefore, the analysis assumes total water use by CVP Contractors under the Water Purchase and Option Purchase alternatives would be similar to the quantity of water used under the No-Action Alternative. Consequently, there would be minimal, if any, quantifiable effect on drainage to the San Joaquin River. Assuming there was a quantifiable difference in return flows to the San Joaquin River with a water purchase, as compared to the No-Action Alternative, the additional drainage would still be within historical quantities and regulated by the discharge restrictions established in the Agreement discussed in response to comment 2-3.

2-5: Based on the evidence supplied in the EA and the clarifications provided above, Reclamation stands by the adequacy of the EA/FONSI and the finding that neither of the proposed alternatives would have a significant adverse impact on the environment.

Appendix E

STATE WATER PROJECT
SUPPLEMENTAL WATER PURCHASE PROGRAM
APPENDIX B
DESCRIPTION OF EXISTING ENVIRONMENT

Draft Program Environmental Impact Report
State Clearinghouse 94082033
(December 1996)